



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/786,965

02/25/2004

Dan Aharoni

EMC-02-132CIP1

4123

24227 7590 09/15/2008
EMC CORPORATION
OFFICE OF THE GENERAL COUNSEL
176 SOUTH STREET
HOPKINTON, MA 01748

EXAMINER

PATEL, SHAMBHAVI K

ART UNIT

PAPER NUMBER

2128

MAIL DATE

DELIVERY MODE

09/15/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/786,965	Applicant(s) AHARONI ET AL.	
	Examiner SHAMBHAVI PATEL	Art Unit 2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 23 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to the Amendments/Remarks submitted 23 June 2008.
2. Claims 1-14 have been presented for examination.

Examiner's Note

3. Examiner is unable to find support in the specification for the term "source data storage system.", and requests that Applicant provide specific citations within the specification that provide clarification and support regarding the term.

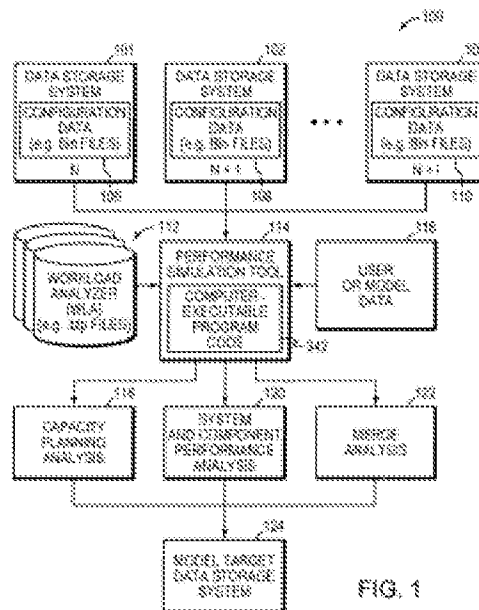
Response to Arguments

4. In view of Applicant's amendments, an amended 35 U.S.C. 112 rejection is issued below.
5. Applicant's arguments with respect to claims 1-14 have been considered but are not persuasive.
 - i. **Applicant submits**, on page 10 of the remarks, that because Friedrich discloses only a computer for his "modeling", Friedrich does not disclose "[a] target data storage system," "one or more the data storage systems" and "a user interface".
Examiner notes that Friedrich teaches "a target data storage system" (**figure 1: the entire computer system being modeled**), one or more data storage systems (**figure 1: the individual storage systems of each CPU**), and a user interface (**figure 2**).
 - ii. **Applicant submits**, on page 10 of the remarks, that Friedrich does not disclose where "the user interface connected over a network to the target data storage system and one or more source data storage systems".

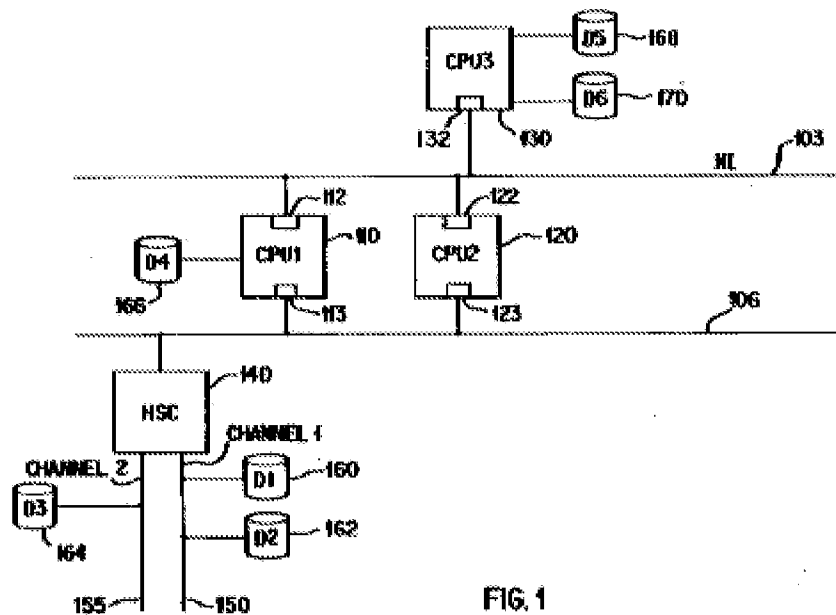
Examiner notes that the only support found in the specification for this limitation is:

Referring now to Fig. 1, reference is now made to a network or local system 100 for which the invention is particularly useful and typically includes a plurality of data storage systems, such as data storage system 100, 102, and 104.

Figure 1 of the instant application shows only a storage system that is connected to the simulation tool:



Examiner notes figure 1 of the Friedrich reference:



As stated in **column 6 lines 6-13**, the computer modeling processor (i.e. user interface) can be one of the CPUs, or an entirely different computer. In the former case, if the interface is contained in any one of the CPU1, CPU2 or CPU3, it is connected to the data storage system being simulated (each of the CPUs, including their attached disks) as well as the target data storage system (all of the CPUs). In the latter case, the separate computer containing the interface would inherently be networked to the storage systems, in order to receive the data required to model the systems.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding **claims 1 and 8**, the term “source data storage system” is vague and indefinite.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-14 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by **Friedrich (US Patent No. 5,276,877)**.

Regarding claims 1 and 8:

Friedrich discloses a method of enabling a user to construct on a target data storage system the method comprising the steps of:

- a. displaying a user interface to the user (**column 9 line 53-column 10 lines 19**), the user interface connected over a network (**figure 1**) to the target data storage system (**figure 1: entire system being simulated**), the target data storage system comprising a plurality of storage components (**figure 1: each of the CPUs being simulated, including their attached disks**), and one or more source data storage systems, each of the one or more source data storage systems comprising a plurality of storage components (**column 13 lines 28-35**)
- b. the interface including a selector to enable the user to select a data storage component for inclusion in the target data storage system (**column 13 lines 28-35**)
- c. merging the one or more data storage components from the one or more source data storage systems into the target data storage system, including obtaining configuration characteristics and workload characteristics for the one or more data storage components from the one or more source data storage systems (**column 14 lines 36-50**)
- d. simulating performance of the target data storage system using one or more workloads to obtain utilization and performance information for each data storage component of the one or more data storage components of the one or more source data storage systems and for the target data storage system (see **Fig. 3(a) and 3(b); column 10 lines 8-20, 43-49; column 14 line 66-column 15 line 2; column 32 line 43-column 33 line 14**)
- e. graphically representing the utilization or performance of each of the one or more data storage components of the one or more source data storage systems merged into the target storage system on the user interface to enable the user to visually determine whether the target data storage system meets a desired performance (**column 15 lines 3-30**)

Friedrich discloses a computer having a memory and display (**column 2 lines 61-67**)

Regarding claims 2 and 9:

Friedrich discloses obtaining the workload characteristics from a workload analyzer that analyzes the workload characteristics of the associated data storage component when executing in the source storage system in response to the one or more workloads (**column 14 lines 46-65**).

Regarding claims 3 and 10:

Friedrich discloses inputting the workload characteristics by a user (**column 10 lines 21-33**).

Regarding claims 4 and 11:

Friedrich discloses consolidating the source data storage system by constructing the target data storage system to include fewer data storage components than the source data storage system (**column 14 lines 21-34**).

Regarding claims 5 and 12:

Friedrich discloses data storage components in the target system that are of higher capacity than the source system (**column 26 line 53-column 27 line 21**).

Regarding claims 6 and 13:

Friedrich discloses load balancing the system in accordance with simulation results (**column 11 lines 25-36**).

Regarding claim 7:

Friedrich discloses indicating whether to consolidate a plurality of data storage components of the source system to fewer or newer storage components (**column 29 lines 48-59 displays devices that may be removed**).

Regarding claim 14:

Friedrich discloses partially optimizing the system in accordance with the simulation results (**column 1 line 5-column 2 lines 49: analysis done to improve system**).

Conclusion

8. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Examiner's Remarks: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in their entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner. In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shambhavi Patel whose telephone number is (571) 272-5877. The examiner can normally be reached on Monday-Friday, 8:00 am – 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on (571) 272-22792279. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Art Unit: 2128

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Kamini S Shah/

Supervisory Patent Examiner, Art Unit 2128

SKP